Application No. 10/528,706

Reply to Office Action of August 19, 2009

IN THE CLAIMS

Please amend the claims as follows:

1-9. (Canceled)

10. (Currently Amended): A method of recovering electric energy with an electric

energy recovery system in a motor vehicle driven by at least one electric motor, containing a

fuel cell that feeds the electric motor and electrical equipment supplied with fuel of hydrogen,

by a reformer, a fuel flow of which is controlled in accordance with electricity consumption

of the electric motor, and which temporarily produces excess fuel when consumption of the

electric motor diminishes, and containing an energy storage,

the method comprising:

a) balancing which includes calculating a potential electric power that the fuel cell is

capable of instantaneously supplying in accordance with the fuel flow produced by the

reformer and estimating electric powers instantaneously consumed by the electric motor and

by the equipment;

b) calculating excess electric power which is a result of a difference between the

potential electric power and a sum of the estimated electric powers consumed;

c) determining instantaneous electric power storage capacity of the energy storage

which is released when the excess electric power is strictly positive, the electric power

storage capacity including a storage capacity of at least one electric battery, a heat

accumulator, a vacuum accumulator, and a pressure accumulator;

d) storing which is activated when the instantaneous storage capacity is higher than or

equal to the excess electric power, during which the fuel cell is supplied by all of the excess

fuel and during which the excess electric power is stored in the energy storage, wherein the

energy storage includes the pressure accumulator as a fluid container in which the energy is

2

Application No. 10/528,706

Reply to Office Action of August 19, 2009

stored in a form of mechanical energy by a pump that modifies fluid pressure and the pump

drives at least one piece of the electrical equipment that is driven by the electric motor when

the energy supplied by the excess electric power is insufficient; and

e) distributing the excess fuel, which is activated when the storage capacity is less

than the excess electric power, during which the fuel cell is supplied with a portion of the

excess fuel sufficient to reconstitute energy stocks of the energy storage.

11. (Previously Presented): A method according to claim 10, further comprising,

between the calculating b) and the determining c), recuperation braking b') activated when

the electric power consumed by the electric motor is nil, the electric motor then being capable

of operating as an electric current generator, and during which the electric power capable of

being produced by the electric motor is estimated and then added to the excess electric power.

12. (Previously Presented): A method according to claim 11, wherein on the storing

d) and distributing e) the electric power produced by the electric motor is stored in the energy

storage in priority over the excess power produced by the fuel cell.

13. (Previously Presented): A method according to claim 10, wherein a remaining

portion of the excess fuel is burned off.

14. (Previously Presented): A method according to claim 10, wherein a remaining

portion of the excess fuel is stored in a tank.

15. (Canceled).

3

16. (Currently Amended): A method according to claim 10, wherein the energy storage includes [[a]] the heat accumulator in which the excess electric power is stored in a form of heat energy by a compression cooling system.

17. (Canceled).

18. (Currently Amended): An electric energy recovery system in a motor vehicle driven by at least one electric motor, comprising:

a fuel cell that feeds the electric motor and electrical equipment and is supplied with fuel hydrogen, by a reformer, a fuel flow of which is controlled in accordance with electricity consumption of the electric motor, and which temporarily produces excess fuel when the consumption of the electric motor diminishes[[,]]; and

electric power storage capacity of the energy storage is higher than or equal to the excess electric power, and the electric power storage capacity includes a storage capacity of at least one electric battery, a heat accumulator, a vacuum accumulator, and a pressure accumulator,

wherein the system regulating regulates the excess electric power, including excess recovered energy produced by the motor and energy supplied by the fuel cell, with aid of surplus reformate produced by the reformer,

wherein the energy storage includes the pressure accumulator as a fluid container in which the excess electric power is stored in a form of mechanical energy by a pump that modifies fluid pressure and the pump drives at least one piece of the electrical equipment that is driven by the electric motor when the energy supplied by the excess electric power is insufficient.

Application No. 10/528,706

Reply to Office Action of August 19, 2009

19. (Previously Presented): A method according to claim 10, wherein the pump is a vacuum pump configured to drive the at least one piece of electrical equipment and the at least one piece of electrical equipment is a braking assistance system.

20. (Previously Presented): A method according to claim 10, wherein the pump is an electropump configured to drive the at least one piece of electrical equipment and the at least one piece of electrical equipment is an assisted steering system.

21. (Previously Presented): A method according to claim 16, wherein the storing includes adding the excess electric power to the heat accumulator when recuperation braking is not activated.

22. (Previously Presented): A method according to claim 16, wherein the excess power stored in the heat accumulator is energy supplied only by the fuel cell.

23. (Previously Presented): A electric energy recovery system according to claim 18, wherein the pump is a vacuum pump configured to drive the at least one piece of electrical equipment and the at least one piece of electrical equipment is a braking assistance system.

24. (Previously Presented): A electric energy recovery system according to claim 18, wherein the pump is an electropump configured to drive the at least one piece of electrical equipment and the at least one piece of electrical equipment is an assisted steering system.

Application No. 10/528,706 Reply to Office Action of August 19, 2009

25. (Currently Amended): A electric energy recovery system according to claim 18, wherein the energy storage includes [[a]] the heat accumulator in which the excess electric power is stored in a form of heat energy by a compression cooling system.

26. (Previously Presented): A electric energy recovery system according to claim 25, wherein the excess electric power is added to the heat accumulator when recuperation braking is not activated.

27. (Previously Presented): A electric energy recovery system according to claim 25, wherein the excess electric power stored in the heat accumulator is only the energy supplied by the fuel cell.